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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,103	07/14/2003	Junichi Ishizuka	F-7859	5800

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JORDAN AND HAMBURG LLP
122 EAST 42ND STREET
SUITE 4000
NEW YORK, NY 10168

EXAMINER	
DEHGHAN, QUEENIE S	
ART UNIT	**PAPER NUMBER**
1791	

NOTIFICATION DATE	DELIVERY MODE
07/09/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Office Action Summary	Application No.	Applicant(s)	
	10/619,103	ISHIZUKA, JUNICHI	
	Examiner	Art Unit	
	Queenie Dehghan	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 May 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-8,11-14 and 17-20* is/are pending in the application.

4a) Of the above claim(s) *3 and 4* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2, 5-8, 11-14, 17-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 12, 2008 has been entered.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 2, 5-7,and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (JP 60-171234) in view of Budinski et al. (6,305,194). Shimizu disclose a method for molding lens by heating and compressing a lens preform between oppositely placed first and second cores (2', 1'), each having an end part comprising a compression molding surface (figure 3, abstract). Shimizu et al. also teach an intermediate restrictor (3) comprising a predetermined outer radial dimension and an opening with a predetermined radius, wherein the outer radial dimension being greater than an outermost radial dimension of both the first and second cores, and the end part of the first molding core have a radially outer dimension that is smaller than the radius of the opening of the intermediate restrictor (drawings 3 & 4, abstract). Also, the end part

of the second molding core has a radially outer dimension that is larger than the radius of the opening of the intermediate restrictor and smaller than the outer radial dimensions of the intermediate restrictor, so that the intermediate member is positioned on a platform formed on the end part of a second molding core (1'), wherein an axis of the second molding core is collinear with an axis of the opening. Shimizu et al. also position the lens preform (10) and the end part of first molding core (2') in the opening of the intermediate restrictor, so that the end part opposes the end part of the second molding core and an axis of the first molding core is collinear with an axis of the opening (abstract). However, Shimizu fails to disclose a molding surface with depression or projections. Budinski et al. teach a method for molding lens by heating and compressing a lens preform between molding cores, just as Shimizu does. Budinski also further teach compression molding surfaces on the cores, wherein at least one of the molding surfaces comprises depressions formed on the surfaces for transferring and molding a plurality of convex or concave elements (Fig. 5 col. 1 lines 40-49). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a molding core with depressions, such as Budinski, as a variation of the molding core surface of Shimizu in order to produce multiple micro lenses at the same time from just one preform.

3. Regarding claim 2, Budinski further teaches performing the compression of the preform in vacuum (col. 7 lines 4-6).). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize vacuum in the process of Shimizu in order to minimize void formations in the lenses.

4. Regarding claims 7 and 13, Shimizu et al. discloses an end part of the first molding core that has a smaller outer radius than the outermost radial dimension of the second molding core in figure 3.

5. Regarding claims 12 and 18-20, Shimizu discloses a restrictor that is positioned to restrict a flow of the lens preform during heating and compressing of the lens preform, thereby forming lens with a shape and size of high accuracy. Budinski et al. also disclose the molding of a lens preform to closely conform to each of the said depressions or projections and thereby homogenize an optical performance of all the lens elements of the lens preform (col. 4 line 62 to col. 5 line 15), similar to Shimizu.

6. Claims 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (JP 60-171234) in view of Budinski et al. (6,305,194), as applied to claim 5 above, in further view of Takagi et al. (5,817,616). Budinski and Shimizu fail to specifically disclose a first molding core with an end part that has a radius smaller than the outermost radial dimension of the first molding core. Takagi teaches an optical element molding method that comprises a first and second molding core as well as a restrictor (figure 1). Furthermore, Takagi teaches a first molding core that has an end part with a radius that is smaller than the outermost radial dimension of the first molding core (flange 3c in figure 1). Having a flange section of the molding core allows for a contact surface between the molding core and the restrictor, and therefore forming a gap. It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize such an embodiment of the first molding die of Takagi in the process

of Shimizu and Budinski in order to provide a gap that determines the thickness of the optical element formed, as taught by Takagi.

7. Claims 11 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimizu et al. (JP 60-171234) in view of Budinski et al. (6,305,194), as applied to claim 5 above, in further view of Ikeuchi et al. (JP 03-146427). Shimizu and Budinski fail to specifically disclose molding cores with the same outermost radial dimensions. Ikeuchi et al. teach a method for molding optical elements comprising a mold with a first (4) and second (3) molding cores, wherein the second molding core has a radial dimension that larger than the opening of the restrictor (5) so that a platform is for positioning the restrictor is formed and wherein the first molding core has end part (4c) that has a radius smaller than the opening of the restrictor. Furthermore, Ikeuchi teaches first and second molding cores with outermost radial dimensions that are same and a restrictor that is between the first and second molding cores (figure 1). Absent of any unexpected results from utilizing molding cores that have outermost radial dimensions that are the same and restrictors located between the molding cores, one of ordinary skill in the art at the time of the invention would reasonably employed molding cores and a restrictor with portions not directly involved with the molding of the optical surfaces of the optical element to have any desired shape to fit the overall apparatus employing the molding core, such as the molding cores of Ikeuchi with outermost radial dimensions that are the same and the restrictor between the cores. The above combination of familiar elements, such as a platform for the restrictor, a first molding core with a smaller radius than the opening of the restrictor, the same outermost radial

dimension of the molding cores, and a restrictor located between the molding cores yields predictable results of producing the desired optical elements.

Affidavits/Declarations Under 37 CFR 1.132

8. The Declaration under 37 CFR 1.132 filed May 12, 2008 is insufficient to overcome the rejection of claims 5 and 6 based upon Budinski and Shimizu as set forth in the last Office action because: the arguments were not convincing. First, regarding the heating argument, the applicant speculates a potential interference with the heating coils that is not supported by any evidence. Also, a heating coil is not a claim limitation. Second, regarding the amount of glass molding material used, the applicant argues Budinski does not use excess glass. Fig. 10 shows multiple micro lenses manufactured from one preform, wherein the array of lenses comprises the lenses (140) and the excess material around and beyond the grid of lenses, which indicates that an amount of excess glass was utilized in order to form all the lenses (including the central and periphery lenses). Third, regarding the inclination of lens surfaces, the applicant argues Budinski fail to indicate an inclination problem. Shimizu teaches an improvement for the molding process where high accuracy optical elements can be made by utilizing a restrictor. Fourth, regarding the shape of lenses, the applicant argues the lens of Shimizu is not of an ideal shape because of the additional shapes. It appears the additional shapes are formed in an area outside the effective diameter of the lens and therefore would not interfere with the optical properties of the lens. The same can be said about the micro lens array of Budinski, wherein the additional shapes would be

formed in an area not affecting the lenses themselves. Last, the applicant argues the space portions of mold of Shimizu would result in a pressure differential that would result in a difference in transfer performance in a central area versus peripheral area. This argument lacks evidence. Also, the space portions would affect an area outside the area of the central and peripheral lenses and would not affect the optical characteristics of the lenses.

Response to Arguments

1. Applicant's arguments filed April 10, 2008 have been fully considered but they are not persuasive. The applicant argues that there is no reason to alter the shapes of the molding cores of Budinski, especially to be shaped like the molding core of Shimizu. The applicant alleges that the shape of the molding cores of Budinski is different from that of Shimizu. This appears to be mere allegation, since none of the figures (fig 5, 7 or 9) of the Budinski molding cores give a complete picture of how the molding cores are shaped. As presented in the previous rejection, Budinski was relied upon to teach a molding surface with depressions or projections. Shimizu was relied upon to teach a restrictor and the arrangement of the restrictor for them to work, that is the platform created on the second molding die to support them; hence making it obvious to. modify the overall shapes and arrangements of the molding cores with multiple depressions of Budinski in order to accommodate the desired restrictor for prevention of the inclination of the molding die surfaces. Budinski was not used to teach an inclination problem, but instead Shimizu teaches an improvement for producing optical elements with high

accuracy by using a restrictor. The applicant also argues that restrictor and sliding parts of Shimizu would interfere with the induction heating coil of Budinski. This appears to be mere allegation with no evidence. Furthermore, the heating coils of Budinski are not an element that is claimed or discussed in any of the rejections.

2. Furthermore, the applicant argues the amount of glass material utilized in Budinski. This appears to be an assumption that is unsupported. In figure 6, it is clear that the web containing the array micro lenses exceeds beyond just the peripheral band of micro lenses, which implies more than then necessary amount of glass material is utilized and would be inclined to require restrictors. Furthermore, the applicant alleges that excess glass would create a pressure differential. There is no evidence to support this and the amount of excess glass that might cause the alleged pressure differential is not quantified.

3. The applicant alleges that the spaces 5A and 5B in the figures of the Shimizu reference would affects the optical performance of the periphery of a lens. It is unclear how this is so, since it appears the excess glass in 5A and 5B are not in the optical area of the lenses. Regarding Takagi, the applicant argues that Budinski discloses compression to a positive stop. There is no evidence to contradict the use of a flange on the molding core for creating the positive stop.

4. Nonetheless, a new rejection has been presented.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Queenie Dehghan whose telephone number is (571)272-8209. The examiner can normally be reached on Monday through Friday 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Q Dehghan

/Richard Crispino/
Supervisory Patent Examiner, Art Unit 1791